EXHIBIT 41

DECLARATION OF MICHAEL C. CRAIR

I, Michael C. Crair, declare as follows:

1. I am the Vice Provost for Research at Yale University ("Yale"), a position I have held since 2020. I am also William Ziegler III Professor of Neuroscience and Professor of Ophthalmology and Visual Science at Yale.

2. I have personal knowledge of the contents of this declaration, or have knowledge of the matters based on my review of information and records gathered by Yale personnel, and could testify thereto.

3. Yale is an educational institution organized and existing under and by virtue of a charter granted by the General Assembly of the Colony and State of Connecticut, and its campus is based in New Haven, Connecticut.

4. Yale receives substantial annual funding from the National Science Foundation ("NSF"). During fiscal year 2024, which runs from July 1, 2023, to June 30, 2024, Yale expended $41.4 million of funds from NSF. Its subrecipients expended an additional $2.8 million of funds from NSF. During the fiscal year ending June 30, 2024, Yale received 314 awards from NSF.

5. Yale intends to apply for new funding awards, and renewals and continuations of existing funding awards, in the next year and in future years to come.

6. The funding Yale receives from NSF supports critical and cutting-edge research that bolsters our nation's security and strengthens the American economy. Millions of Americans benefit from and depend on this research. To cite just a few examples:

   a. NSF funding has supported QuantumCT, a public-private partnership led by Yale University and the University of Connecticut to establish the State of Connecticut as the world's leader in developing quantum technologies

for use in real-world applications. This initiative, launched with the help of an NSF Regional Innovation grant, is translating quantum discoveries into tangible technological solutions for Connecticut industries, including aerospace, insurance, finance, and biotech.

b. A team of Yale researchers are building the first "Quantum Internet," backed by one of NSF's most competitive grants in quantum technology. The SCY-QNet project addresses a significant need in the field of quantum computing to create a scalable network of labs and research centers. The project serves as the national blueprint for the next generation of high-speed quantum computing, unlocking new possibilities for hack-proof data transmission, scientific breakthroughs driven by supercomputing, and training a quantum-ready workforce.

c. With support from the NSF National Quantum Virtual Laboratory (NQVL) initiative, a Yale team is developing a novel quantum computing platform to solve a key challenge within the field of quantum computing: hardware that is prone to error. This academic-industry partnership will accelerate the pace of development of quantum computing technologies, contributing to national security and economic readiness.

d. With support from NSF, a Yale researcher is designing new computing architectures that enables quantum computers to automatically correct errors, or "noise," so users don't have to. This system will usher in more efficient and powerful quantum computer algorithms that resolve a common problem in today's early quantum computers, accelerating the development

of quantum computers that show superior performance to classical computer architecture.

e. With funding from NSF, a team of Yale researchers are developing a new radiofrequency sensor to improve navigation for airplanes, ships, and autonomous vehicles. This technology has the potential to enhance transportation safety, national security, and autonomous systems in both commercial and defense applications, contributing to United States competitiveness.

f. A Yale computer scientist supported by NSF is exploring methods to prevent the leakage of sensitive information from encrypted databases. The research aims to develop and evaluate new defenses against data leakage, enabling cryptographic guarantees that a user can efficiently search over encrypted data while only disclosing patterns about the data, without compromising privacy.

g. NSF-funded Yale researchers are examining how to more efficiently generate proteins from messenger ribonucleic acids (mRNAs). Insights into these fundamental rules for gene expression will be important building blocks for engineering new classes of mRNA therapeutics to address a broader spectrum of human disease, thus advancing RNA biotechnology.

h. With support from NSF, a Yale researcher is uncovering how enzymes move and function—work that's advancing our understanding of metabolic diseases typically linked with enzyme dysfunction, opening new doors for the development of diagnosis and treatment of these devastating disorders.

7. Reimbursement of Yale's indirect costs is essential for supporting this research. NSF's cutting of indirect cost rates to 15% would jeopardize Yale's ability to carry out the kinds of research projects described in paragraph 6 in the future. The impact would be particularly pronounced with respect to research that depends on large investments in buildings and shared facilities that require stringent conditions to conduct precision experiments, such as core facilities for quantum technologies and high-powered computing facilities for AI research.

8. Indirect costs include, among other things, the core facilities that provide the critical infrastructure for research on quantum computing and artificial intelligence, such as high-performance computing equipment housed at the Yale Center for Research Computing. And they include a wide range of additional physical facilities costs, which are among the largest components of indirect costs. These include not only the usual costs of constructing and maintaining buildings where research occurs, but the very high costs of outfitting and maintaining specialized laboratory space, which can require special security, advanced HVAC systems for extreme temperature and humidity control, specialized plumbing, electrical, and waste management systems, as well as specialized laboratory equipment. Without this critical infrastructure, Yale could not conduct the research.

9. In addition, indirect costs fund the administration of awards, including staff who ensure compliance with a vast number of regulatory mandates from agencies such as NSF. These mandates serve many important functions, including ensuring research integrity; properly managing and disposing of chemical and biological agents and other materials used in research; managing specialized procurement and security requirements for sensitive research; managing funds; preventing technologies from being inappropriately accessed by foreign adversaries; providing the high level of cybersecurity, data storage, and computing environments mandated for

regulated data; ensuring compliance with specialized security protocols and safety standards; protecting research subjects; maintaining facility accreditation and equipment calibration to meet research quality and security standards; and managing financial disclosure to promote objectivity in research.

10. The people whose work is funded by indirect cost reimbursements perform essential functions in support of Yale's research enterprise, including building maintenance, utilities (lighting, water, heat), security, information technology support and security, biosafety, radiation safety, hazardous waste management and disposal, research security, and, as described above, compliance with the increasingly complex federal regulations governing federally funded research.

11. Recovery of Yale's indirect costs is based on predetermined rates that have been contractually negotiated with the federal government. Yale recently completed F&A rate negotiations with the federal government, signing a new agreement in Fall 2024. During this process, the U.S. Department of Health and Human Services ("HHS") verified that Yale's costs were appropriate and agreed to maintain Yale's rate at the same level as it had been since 2017. The federal government agreed to modest future increases in Fiscal Years 2027 and 2028. Through fiscal year 2026, Yale's predetermined indirect cost rate is 67.5%. This rate will increase to 68.0% in fiscal year 2027 and 68.5% in fiscal year 2028.

12. The effects of a reduction in the indirect cost rate to 15% would be significant. Of the $41.4 million in NSF funding that Yale received in fiscal year 2024, approximately $26.7 million consisted of payment of direct costs, $2.7 million was received under subcontracts (which may not be eligible for overhead recovery), and $12 million consisted of reimbursement of indirect costs. Similarly, in fiscal year 2025, Yale expects to expend $23.3 million in NSF funding for

direct costs and $11.1 million in NSF funding for indirect costs. And over the next five years, Yale anticipates receiving an average of $25.5 million from the NSF for annual direct costs. Based on the predetermined indirect cost rates in fiscal years 2025, 2026, 2027, and 2028, which were agreed upon by the federal government as of October 28, 2024, and applying that rate to the direct costs, Yale expects to receive an average of approximately $12.3 million in indirect cost recovery on an annual basis over the next five years.

13. If—contrary to what Yale has negotiated with the federal government—the indirect cost rate were reduced to 15% for new awards, that would significantly reduce Yale's anticipated annual indirect cost recovery. For example, applying the 15% rate to the anticipated direct costs over the next five years, Yale's anticipated annual indirect cost recovery would be reduced by approximately $9 million: from $12.3 million per year to $3.3 million per year.

14. Yale has relied on NSF's longstanding acceptance of Yale's negotiated F&A rates in developing its operating budget and in making massive investments to the capital infrastructure that makes it possible for scientific research to happen at Yale today and for the future. The conduct of groundbreaking research requires universities to invest in complex, costly laboratory buildings, equipment, and related infrastructure. Yale has prepared its budgets and financial plans based on the understanding that federally sponsored research will continue to include reimbursement for these costs of research. The university's decision to build and maintain these buildings and to conduct this research has relied significantly on the federal government's funding of the construction and maintenance of the buildings in which this research takes place. These are real costs of research that Yale makes upfront, and which the federal government only reimburses after they have been incurred by Yale, using a reimbursement rate that is based on the actual costs incurred to conduct the research and a calculation that is reviewed and approved by HHS.

15. Yale's long-term investments include large scale investments in designing, constructing, and maintaining state-of-the art laboratory buildings for which Yale has borrowed hundreds of millions of dollars based on anticipated grant-funded research and the associated F&A reimbursements. In the most recent federally-approved F&A rate negotiation that concluded in Fall 2024, Yale's actual costs incurred to build and maintain research laboratory space (the "Facilities" portion only of the Facilities & Administrative rate) was $177 million per year. Yale continues each day to make long-term investments in building future laboratory research facilities, including hundreds of millions of dollars in investments in new construction and renovations that directly benefit NSF-funded research. These investments are already in progress with contracts in place and construction ongoing.

16. For example, Yale has broken ground on a large complex of buildings where quantum computing, quantum materials, and other quantum science research will take place. This research is important to national security, and the science is largely funded by NSF. Since indirect cost reimbursement from NSF is an important source of funding for this complex, a cap on the NSF indirect cost reimbursement rate could result in Yale needing to delay the construction of this set of projects. By September 2025 Yale must decide whether to proceed with $850 million in capital spending to complete the construction of the Physical Sciences and Engineering Building (PSEB), which will be the primary locus of quantum research at Yale and which would represent the largest building project in Yale's history. A cap in the NSF indirect cost rate would threaten Yale's ability to proceed with that substantial investment in this quantum research facility.

17. The cut to the federal F&A cost reimbursement rate will cause Yale to undertake a review of direct and indirect costs of research and take actions to reduce the impact to Yale's research budget. In the short term these actions could include stopping work on some research,

laying off both laboratory and support staff, reducing salaries, deferring maintenance on or canceling the purchase of equipment, deferring maintenance on buildings and other infrastructure, and considering a redirection of areas of research to ones which are less costly.

18. Longer term, Yale's decisions about which projects it will submit to NSF for grant funding would need to consider foremost the proposed research's financial impact on Yale, as opposed to the quality of the proposed science. Yale would be compelled to reassess a range of programmatic investments which could significantly curtail Yale research currently supported by NSF. These actions would include canceling major capital projects, including both renovations and new construction, which would mean the loss of construction and other jobs related to these projects in addition to any new research jobs that would have been created when the buildings would have opened in the future.

19. Without F&A cost recovery, much direct funded research would also be at risk, since research cannot happen without necessary infrastructure, funded by indirect cost recovery. As a result, the cap would impair the research productivity of faculty and staff due to diminished support services, delays in laboratory renovations, and backlogs in compliance with federal regulatory mandates. This would severely impair the translation of laboratory discoveries to industrial applications that have the potential to accelerate American economic development and improve American lives.

20. Disruptions to Yale's research will also have negative effects in the New Haven area, the state of Connecticut, and the broader region. Yale is New Haven's largest employer with nearly 20,000 faculty and staff. About 6,000 of them live in New Haven. As a result, any reduction in headcount at Yale would severely damage the local economy. Furthermore, the potential impacts on direct funded research due to the loss of necessary infrastructure would have broader

economic impacts on the local economy, including the many vendors in the New Haven region and across Connecticut and the Northeast who provide goods and services in support of Yale's research enterprise.

21. Such a cut would also impact entrepreneurial activity generated through Yale innovations. In Fiscal Year 2024 alone, Yale investigators launched at least 14 new companies based on Yale inventions. This is on top of numerous licenses of Yale inventions to existing companies, many of which are based in Connecticut and the broader region.

22. Beyond the State of Connecticut, these caps would have significant impacts on the United States' role as the global leader in innovation. It is estimated that universities perform 45% of all the fundamental research conducted in the United States. NSF has reported that two-thirds of the research papers cited in U.S. patent applications were written by faculty. Hindering the productivity of faculty would impair another channel for knowledge transfer that supports innovation in industry.

23. Finally, slowdowns or halts in research by Yale and other American universities will allow competitor nations that are maintaining their investments in research to surpass the United States on this front, threatening both our nation's national security and its economic dominance. NSF funding supports Yale research in multiple areas that are strategic priorities for the United States and the focus of intense competition from the United States' rivals. These include projects focused on quantum computing, artificial intelligence, and information security. These computing-intensive projects depend on fair reimbursement of indirect costs, including the costs of physical infrastructure and shared computing power. Reducing the economic viability of conducting this research in the United States will likely spur talented domestic researchers to

relocate to institutions located in countries willing to invest in these areas. This would have far-reaching implications for the United States' global competitiveness.

24. Yale already spends a significant amount of its own institutional funds on research. According to data maintained by NSF, in Fiscal Year 2024 alone Yale spent over $432 million on research. This is more than 36 times the amount of F&A cost reimbursement Yale received from NSF that year. The primary source of revenue for this significant institutional investment in research is Yale's endowment.

25. Yale manages its endowment with two principal goals. First, Yale seeks to spend as much as possible for current uses without diminishing the amount that will be available for future generations of students, faculty, and staff. Yale believes that spending 5.25% of the endowment value annually meets this goal. Second, Yale applies a smoothing rule to avoid year-to-year swings in operating revenue from the endowment. This is important because salaries and benefits comprise over half of Yale's operating expenses.

26. Yale's endowment spending policy explicitly aims to maximize the amount that can be spent each year in a sustainable manner, consistent with Yale's legal and fiduciary obligations for stewarding gifts to the endowment. Therefore, spending more from the endowment than the policy allows would not be a responsible option to make up for the budget shortfall that would be created by a fifteen-percent cap on indirect cost reimbursement.

27. Reallocating even more endowment revenue to fund the federal government's fair share of the costs of federally sponsored research would require the university to reduce funding for other priorities. These priorities include over $230 million in endowment revenue spent on undergraduate scholarships that enable Yale to be the least expensive four-year school in

Connecticut for families earning less than $110,000. This is on top of $325 million in endowment revenue spent on financial aid and support of graduate and professional students.

28. Reallocating endowment revenue in this way would also impede Yale's goals to enhance capacity for important national priorities, such as research leading to breakthroughs in medicine, data sciences, artificial intelligence, and quantum technologies. To advance these goals, in August 2024 Yale announced a $150 million investment to harness the potential of artificial intelligence to advance research across the university, to improve the quality and efficacy of health care, and to equip students with the knowledge and skills they will need to shape AI for the benefit of their communities and professions. In September 2024 Yale broke ground on a $1.5 billion Physical Sciences and Engineering Building to transform Yale research in quantum computing, engineering, and materials science. Yale previously committed to hiring 30 new faculty in engineering, and an additional 15 in arts and sciences. These important priorities could be placed in jeopardy if Yale were to reallocate endowment revenue.

29. If Yale ultimately concludes that it can no longer apply for NSF grants because it is unable to accept the new indirect cost rate cap—a risk that would impact the approximately 96% of its NSF grants that currently receive indirect cost reimbursement at a rate higher than the 15% cap—the harms described herein would be exacerbated. That greater loss in funding from NSF would mean more significant cost-cutting measures would need to be adopted. Some research projects would need to be terminated altogether, and others would need to be scaled down or pared back significantly, particularly any which required large investments in buildings, equipment, specialized core research centers, or other research infrastructure funded by indirect cost reimbursements from NSF. Cutting back on Yale's research in fields such as quantum computing

and artificial intelligence would also have long-term implications on national security and the American economy.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on May 7, 2025, at New Haven, Connecticut.

Michael C. Crair